

METHOD AND APPARATUS FOR INCREASING THE OPERATING FREQUENCY OF AN ELECTRONIC CIRCUIT

ABSTRACT

One embodiment of the present invention provides a system that facilitates temporarily increasing the operating frequency of an electronic circuit, such as a computer system, beyond a maximum sustainable operating frequency. Upon receiving a request to operate at a higher frequency, the system determines the thermal energy level of a cooling system for the circuit. If the thermal energy level is below a threshold level for the thermal capacity of the cooling system, the system increases the operating frequency of the circuit to a frequency that is greater than the maximum sustainable operating frequency for a period of limited duration. This period of limited duration is short enough to ensure that a temperature increase, caused by increasing the operating frequency, does not raise the operating temperature of the circuit above a maximum operating temperature.